

## **SLOVAK, Martin et al 2016 Abstract**

### **SBS In The Treatment Of Elbow Spasticity**

#### **Objective**

The study focused on the use of two different types of electrical stimulation: a conventional type of **transcutaneous electrical nerve stimulation (TENS)** and a novel concept of Sensory Barrage Stimulation (SBS) for the treatment of spasticity affecting the elbow flexor muscles.

#### **Results**

Immediately after stimulation spasticity showed a significant reduction for both TENS and SBS groups assessed by Modified Ashworth Scale (MAS). Altogether seven SBS responders and four TENS responders were identified.

The researchers concluded that the study demonstrates the feasibility and practicality of applying the new concept of Sensory Barrage Stimulation. Promising results indicate it causes a reduction in spasticity.

#### **Participants and Researchers**

Ten participants with spasticity of the flexor muscles of the elbow of grade 2 or above on the Modified Ashworth Scale (MAS) were recruited for the crossover double blind randomised trial.

The researchers were: Martin Slovak, Joseph Chindo, Krishnan Padmakumari Sivaraman Nair, Mark L. Reeve, Ben Heller, and Anthony T. Barker, all from Sheffield Hallam University, Sheffield, England.

#### **Methods**

The participants received two intervention sessions (SBS and TENS), one week apart in a randomised order. Both interventions were applied over the triceps brachii on the affected arm for a duration of 60 minutes. TENS intervention was delivered by the **NeuroTrac MultiTENS** (Verity Medical).

Spasticity was measured using the MAS. Secondary outcome measures were self-reported change in spasticity, measured on a Visual Analogue Scale (VAS, 0-100), and therapist-rated strength of elbow extension (SEE) and strength of elbow flexion (SEF). Measurements were taken immediately before each intervention was applied, immediately after the intervention, and one hour after the intervention.

The full abstract can be found at <http://shura.shu.ac.uk/11757/> or at <https://pubmed.ncbi.nlm.nih.gov/26890016/>.